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emy's Proceedings, and stated the fact that his system had been adopted by Dumas, and offered to the world without proper credit to the author.

Four hundred and fifty-third meeting.

August 12, 1858. — Stated Meeting.

The President in the chair.

The Corresponding Secretary read letters from the Director of the Observatoire Physique Central, St. Petersburg, July 21, 1857; Königlich Sächsische Gesenschaft der Wissenschaften, October 1, 1857; Director der Sternwarte, Breslau, January 5, 1858; Director der Sternwarte, Prag, January 6, 1858; Linnæan Society, London, January 8, 1858; and the Société Royale des Antiquaires du Nord, Copenhagen, January 30, 1857, and March 27, 1858, acknowledging the receipt of the Academy's publications; — from the Königlich Bayerische Akademie der Wissenschaften, Munich, December 12, 1857, acknowledging the same, asking that deficiencies may be made up, and presenting various publications; — from the Königlich Preussische Akademie der Wissenschaften, October 24, 1857, presenting its publications, and acknowledging the receipt of those of the Academy; — from the Société Linnéenne de Lyon, July 21, 1854; Administration Imperiale des Mines, St. Petersburg, May 15, 1857; Société Imperiale des Naturalistes de Moscou, July 1, 1857; Königlich Sächsische Gesenschaft der Wissenschaften, Leipzig, October 1, 1857; and the Kaiserlich-Königliche Geologische Reichsanstalt, Wien, May 20, 1857, presenting their various publications; — and from the last, acknowledging the receipt of the Academy's publications, June 27, 1857. Also from T. Edwards Clark, May 27, accepting the Fellowship of the Academy; from Dr. William Sharswood, Philadelphia, June 17, accompanying a sealed parcel, indorsed "An Account of a Discovery in Chemistry," desiring that it might be deposited with the Academy until he should give directions for the seal to be broken; also from the same, under date of August 5, a letter presenting a copy of "Lindermanni Corpus Grammaticorum Latinorum," in four volumes, and suggesting an exchange of publications on the part of the Academy with the Entomologischer Verein zu Stettin, in accordance with the desire of that institution.

The Corresponding Secretary also read the following communication from Dr. William Sharswood, entitled "An Extract concerning the Antidote for Arsenious Acid."

"It is well known that to administer the acknowledged antidote for arsenious acid, that of hydrated oxide of iron, there are attending two difficulties; the first, that it is only in the recently precipitated condition that the above antidote is most active; secondly, that to form the above antidote at the time when required would, from the necessarily long time spent in its preparation, endanger the life of the patient. In answer to the two mentioned difficulties, I would offer the following new antidote, or, more properly, modification of the above antidote, in an isolated form. To prepare this, we have merely to take a solution of the proto-sulphate of iron, and, after having oxidized the iron by means of a few drops of nitric acid, precipitate the oxide with caustic magnesia, when the result is a precipitate of hydrated sesquioxide of iron, combined with sulphate of magnesia.

"It will be easily perceived, that, while this depends upon the same principles (excepting the desired effect produced by the presence of the sulphate of magnesia), it is at the same time characterized by facility and speed of preparation, which render it capable of being prepared on the moment, and thereby affording the desired state before alluded to, that of a recently precipitated condition."

A communication was next read from Professor J. P. Espy, concerning his theory of Storms, and presenting his work on the subject. Professor Espy's letter and book were referred to the Rumford Committee.

The President read a note addressed to him by Professor Benjamin Peirce, accompanying a letter from Dr. I. I. Hayes addressed to the Academy, and asking its good offices in the furtherance of the project of a new expedition, under his direction, to the Arctic regions. The following is the letter of Dr. Hayes: —

"PHILADELPHIA, July 19th, 1858.

"To DR. JACOB BIGELOW, LL. D., *President of the American Academy of Arts and Sciences.*

"SIR: —

"I purpose to attempt to reach the North Pole of the earth.

"To co-operate with me in relation to this object, the American Association for the Advancement of Science, at its last meeting, appointed a committee, consisting of Professor A. W. Bache, Professor Joseph Henry, Professor William B. Rogers, Professor Edward Hitchcock, Professor Benjamin Peirce, Professor J. D. Dana, Professor Joseph Winlock, Hon. Thomas Ewing, Hon. D. M. Barringer, Dr. John L. LeConte, Mr. J. E. Hilgard, Mr. Peter Force, Professor Joseph Leidy, Professor John Torrey, Professor S. S. Haldeman, and Professor Alexis Caswell.

"The American Philosophical Society, and the Academy of Natural Sciences of Philadelphia, have, with the same object, appointed committees.

"Desirous of having the counsel and favorable influence of the eminent association which you represent, I beg to submit my purpose to their consideration, and to say, that I shall gladly receive any suggestions which they may be pleased to make for the furtherance of science, or the special interests of the proposed expedition.

"I am, sir, with great respect,
"Your obedient servant,
"ISAAC I. HAYES."

Voted, that the letter of Dr. Hayes be referred to a committee of three; and the Chair nominated Professors Lovering, Winlock, and Eustis as the committee.

The subject of the Submarine Telegraph Cable between Europe and America having been introduced, Dr. Channing spoke at some length of the various causes which seemed to him likely to interfere with the ready transmission by it of the electric current. His remarks led to a desultory conversation on the best method of constructing an efficient and durable electric cable, in which Professor Treadwell, Dr. C. T. Jackson, Charles Jackson, Jr., Dr. H. R. Storer, Frank Storer, and the Recording Secretary, took part.

Professor Gray read the following "Note on the Coiling of Tendrils."

"As much as twenty years ago, Mohl suggested that the coiling of tendrils 'resulted from an *irritability* excited by contact.' In 1850 he remarked that this view has had no particular approval to boast of, yet that nothing better has been put in its place. And in another paragraph of his admirable little treatise on the Vegetable Cell (contributed to Wagner's *Cyclopædia of Physiology*), he briefly says: 'In my opinion, a dull irritability exists in the stems of twining plants and in tendrils.' In other words, he suggests that the phenomenon is of the same nature, and owns the same cause (whatever that may be) as the closing of the leaves of the Sensitive-plant at the touch, and a variety of similar movements observed in plants. The object of this note is to remark that the correctness of this view may be readily demonstrated.

"For the tendrils in several common plants will coil up more or less promptly after being touched, or brought with a slight force into contact with a foreign body, and in some plants the movement of coiling is rapid enough to be directly seen by the eye; indeed, is considerably quicker than is needful for being visible. And, to complete the parallel, as the leaves of the Sensitive-plant, and the like, after closing by irritation, resume after a while their ordinary expanded position, so the tendrils in two species of the *Cucurbitaceæ*, or Squash family, experimented upon, after coiling in consequence of a touch, will uncoil into a straight position in the course of an hour; then they will coil up at a second touch, often more quickly than before; and this may be repeated three or four times in the course of six or seven hours.

"My cursory observations have been principally made upon the Bur-Cucumber (*Sicyos angulatus*). To see the movement well, full-grown and outstretched tendrils, which have not reached any support, should be selected, and a warm day; 77° Fahr. is high enough.

"A tendril which was straight, except a slight hook at the tip, on being gently touched once or twice with a piece of wood on the upper side, coiled at the end into 2½ – 3 turns within a minute and a half. The motion began after an interval of several seconds, and fully half of the coiling was quick enough to be very distinctly seen. After a little more than an hour had elapsed, it was found to be straight again. The contact was repeated, timing the result by the second-hand of a watch. The coiling began within four seconds, and made one circle and a quarter in about four seconds.

"It had straightened again in an hour and five minutes (perhaps sooner, but it was then observed); and it coiled the third time on being touched rather firmly, but not so quickly as before, viz. 1¼ turns in half a minute.

"I have indications of the same movement in the tendrils of the Grape-vine; but a favorable day has not occurred for the experiment since my attention was accidentally directed to the subject.

"I have reason to think that the movement is caused by a contraction of the cells on the concave side of the coil, but I have not had an opportunity for making a decisive experiment."

Professor Gray read a paper upon a new genus of plants of the Order *Rosaceæ*, recently discovered in Alabama, near Tuscaloosa, by the Rev. R. D. Nevius. The discoverer had proposed to dedicate the genus to the memory of the late Professor Tuomey, of Alabama, — an appropriate tribute to one who was so assiduously and successfully developing the natural history as well as the geology of his adopted State. But in this it now appears that Mr. Nevius has been anticipated by Dr. Harvey, who, in the third part of his *Nereis Boreali-Americani*, just published, has dedicated a new genus of fresh-water *Algæ* to Professor Tuomey. Professor Gray therefore proposes to name the present plant in honor of its discoverer, *Neviusia*, deriving the specific name from the State in which alone the plant is known to grow.

Neviusia Alabamensis is a shrub, with somewhat the habit of *Kerria Japonica.* In structure, likewise, it approaches *Kerria*, and also *Stephanandra.* It is especially interesting to botanists; first, because its nearest allies are all found in Japan, — adding another to the numerous links of connection between the Flora of our own country and that of Japan (a matter which Professor Gray proposes to illustrate upon another occasion); and, secondly, because it so connects the characters of *Kerria* and *Rhodotypos* with *Stephanandra* and *Neillia* as to show that they must all be referred to the same order and group. The new genus has a small quantity of albumen in the seed, but less than *Stephanandra;* its sepals are foliaceous and incised, more so than those of *Rhodotypos;* and it differs from all its allies in being apetalous. The full characters will be published in a memoir upon the genus.

Four hundred and fifty-fourth meeting.

September 14, 1858. — MONTHLY MEETING.

Professor FELTON in the chair.

Dr. A. A. Gould communicated some general scientific intelligence collected during his recent tour in Europe.

Colonel Samuel Swett read a paper containing an account of Colonel Mason's studies in electricity in the last century.

Mr. George P. Bond gave an account of Donati's Comet, and of the observations made upon it at the Cambridge Observatory up to the present time.

Dr. C. T. Jackson made some statements respecting the invention of the magnetic telegraph, and alleged that he himself first made known to Mr. Morse the general idea of the invention, and of the principles upon which it depended.

Mr. Swett presented his views upon the protection of houses from lightning, and argued that the wet exterior of a closed house, during a thunder-storm, was an efficient protection to the interior.

Mr. George S. Boutwell gave a detailed account of the phenomena of a very severe thunder-storm to which he was exposed in the year 1855.

Four hundred and fifty-fifth meeting.

October 12, 1858. — MONTHLY MEETING.

The PRESIDENT in the chair.

Professor Lovering made the following communication on Donati's Comet: —

"The polarization of light may be defined as a change in the ray,